Research Paper | Education | E-ISSN No : 2454-9916 | Volume : 11 | Issue : 6 | June 2025

ACUTE APPENDICITIS WITHOUT PERFORATION MAY CAUSE INTRA ABDOMINAL ABSCESS: A RARE CASE REPORT

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ABSTRACT

Appendix is a finger like tubular pouch that portude from the lower end of large intestine. Appendicitis is a condition when appendix become inflamed and infected leading to pain abdomen. This inflammation, infection causes appendix to swell and it can burst and perforation rate is 40%. The peak incidence of acute Appendicitis in children is in the second decade [1]. The perforated appendix may cause abdominal abscess, Peritonitis, Sepsis. Acute appendicitis without perforation incidence of intra abdominal pus formation is generally low ranging from 1-7%.

INTRODUCTION

Acute Appendicitis and Pain Abdomen:

Abdomen is the magic box to the doctor particularly it is more true to Pediatrician. Abdominal pain can be caused by dysfunction of intra abdominal organ like inflammation, infection or trauma. In acute appendicitis 85% of patient pain & tenderness is located at Mc Burney's point [2]. Children admitted at surgical unit with acute pain abdomen 1.6% were diagnosed pneumonia. Abdominal pain and or vomiting is commonly seen with lower lobe pneumonia [3, 4]. Acute appendicitis in older time and now also is clinical diagnosis, other may choose abdominal imaging (ultra sound, CT Scan, MRI) and other diagnostic procedure. Several guidelines also exist to make diagnosis of acute appendicitis. Several appendix risk scoring systems are there. Pediatric appendicitis score (PAS) is one widely used scoring system (Table-1).

Feature	Score
Fever (>100.40 F)	1
Anorexia	1
Nausea/Vomiting	1
Cough/Percussion/Hopping tenderness	2
Right lower quadrant tenderness	2
Migration of pain	1
Leukocytosis >10000/cmm	1
Polymorphonuclear Neutrophilia (>7500/cmm)	1
Total	10

Table 1: Pediatric Appendix Score

From Acheson J, Banerjee J: Management of suspected appendicitis in children, Arch Dis Child Educ Pract Ed. 2010 Feb;95(1):9-13.

Intra abdominal abscess: Acute appendicitis patient with delayed presentation have higher incidence (40-59%) of perforated appendix leading to abscess formation. Acute appendicitis may lead to abscess formation without perforation in a very rare incidence.

Common causes of intra abdominal abscess:

1. Appendicitis- most common
2. Trauma
3. Surgery
4. Other causes: Pelvic Inflammatory Diseases, Crohn's Diseases, Bowel Obstruction and Necrotising enterocolitis

Less common causes:

1. Bowel Perforation
2. Infection of other area. Example- lungs
3. Congenital anomalies

Intra abdominal abscess though less common in children, it is a life threatening condition [5, 6]. Diagnosis of intra abdominal abscess by the clinician in pediatric age group is very difficult. Sign symptoms of intra abdominal abscess are - abdominal pain, fever, nausea, vomiting, ileus and other [7, 8, 9]

Case Report: We have a 6years old girl child presented at OPD (Out Patient Department) with history of severe pain abdomen associated with vomiting, fever for last 3 days. She was consulted at OPD by other pediatrician and was under treatment but pain increase and attended at emergency department of state government hospital and injection Dycyclomine, injection ondancetron were given.

When she came at our OPD we found:

- Look-toxic
- Dehydration present
- Abdominal rigidity present
- Intestinal peristaltic sound sluggish

She was suggested considering acute appendicitis, a surgical emergency for admission, oral medication, feed and other to stop. She was started with intravenous fluid, intravenous antibiotic and also surgical consultation and investigation done. USG of whole abdomen revealed: **(Fig 1) RIF:** Probe tenderness is noted at right iliac fossa . Echogeni cinterloop collection is also noted at right iliac fossa. Gut loops at right iliac fossa are conglomerated with each other and showing reduced peristaltic movement. No obvious lump is seen. Appendix cannot be localized within the conglomerated gut loops.

Moderate amount of free ascites is seen at pelvis, right iliac fossa and right flank having dense internal echoes.

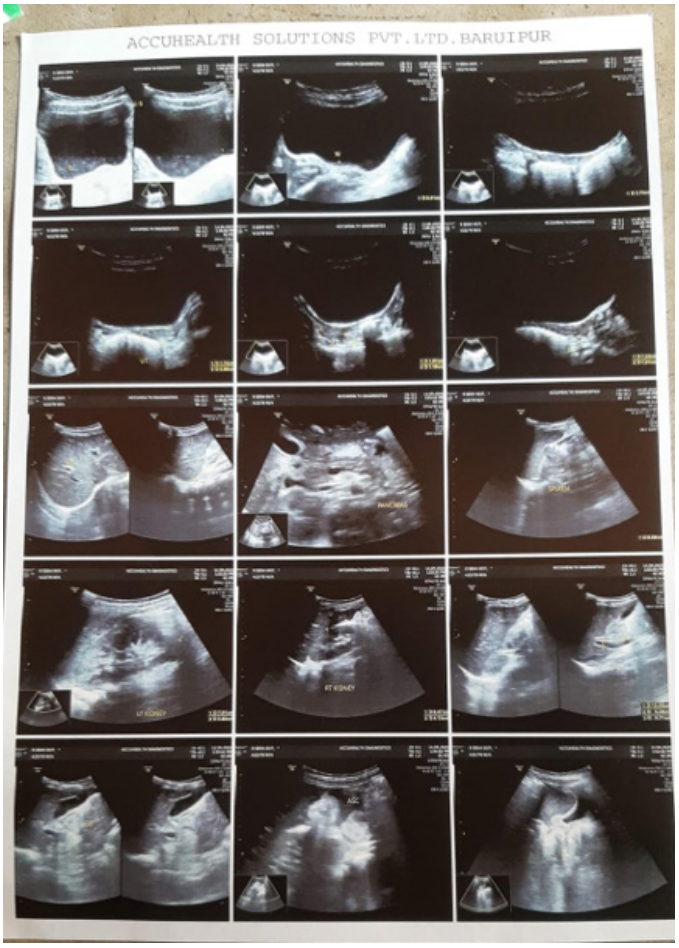

Fig 1: USG plate of whole abdomen

Impression:

1. Right iliac fossa as detailed also suggestive of appendicular pathology.
2. Debris within urinary bladder with thick irregular urinary bladderwall.
3. Echogenic ascites.

Suggest CT abdomen, Urine RE, C/S and other relevant investigation.

Blood Report:
White Blood Corpuscle: 12200/cmm
Neutrophil: 88%
CRP: 65 mg/L
ESR: 126 mm

Initially abdomen was opened through Mc Burney's incision. Huge pus comes from the incision site (Fig - 2). Intra peritoneal wash with normal saline was given. Appendix was identified and its look healthy, no sign of perforation was found. Exploratory Laparotomy was done, whole gut thoroughly examined, liver, spleen, kidney explored but no pathology was identified. As in rare incidence appendicular pathology causes intra-abdominal pus without perforation, appendectomy done and specimen was send for histopathological examination **(Fig 3)**. Subsequently the Histopathological report revealed : Section of the appendix shows focal sloughing out of the mucosa with transmural extension of acute inflammatory cells. The muscular and serosal layers are thinned out. The serosa shows features of serositis. No intraluminal parasite identified.

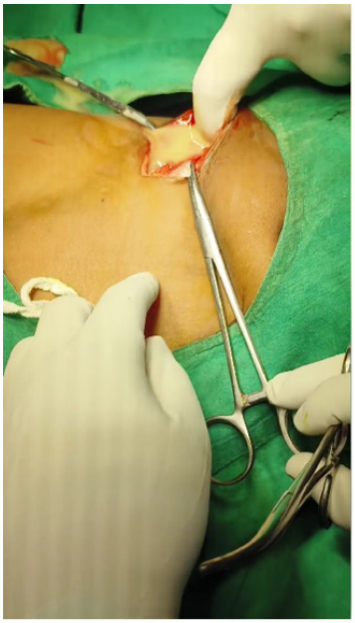

Fig- 2

Fig- 3

DISCUSSION

Clinical eye of an experienced physician is extremely important in spite of various advance diagnostic gadget and use of Artificial Intelligence. Intra abdominal abscess is a life threatening condition as it may cause septic shock, peritonitis, disseminated intra vascular coagulation whatever may be the primary cause [10]. It is written that intra abdominal abscess may develop in 1-7% cases of acute appendicitis without perforation but till not any case report found even after extensive literature search. Acute appendicitis is one of the common causes of pain abdomen and managed by appendectomy complication like perforation, abscess formation, peritonitis occur in 15% cases [11, 12]. Clinical suspicious, early diagnosis and management is important to prevent complication.

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